AMENDMENTS TO THE CLAIMS

Please cancel claims 40, 41, and 50-53, amend claims 1, 18, 31, 36-38, 42, and 45, and insert new claims 54-58, as follows. The following claim lists supersedes all previous claim lists. A complete listing of the current pending claims is provided below.

1.   (Currently Amended) A radiation ~~process~~ method, comprising:

illuminating an object with a first beam at a first energy level;

determining a first image of the object formed by the first beam;

determining configuration data using the first image;

illuminating the object with a second beam at a second energy level;

determining a second image of the object formed by the second beam;

determining radiation absorption data using the second image; and

determining a radiation treatment plan using the configuration data and the radiation absorption data.

2.   (Original) The method of claim 1, wherein the first energy level is a keV energy level, and the second energy level is a MeV energy level.

3.   (Original) The method of claim 1, wherein the first beam and the second beam have low intensities.

4.   (Original) The method of claim 1, wherein the first beam has an intensity between approximately 1 Rad and 20 Rad, and the second beam has an intensity between approximately 250 Rad and 1000 Rad.

5.   (Original) The method of claim 1, wherein the second beam has a constant intensity during a session.

6. (Original) The method of claim 1, further comprising adjusting an intensity of the second beam during a session.

7. (Original) The method of claim 1, wherein the illuminating the object with the first beam and the illuminating the object with the second beam are performed in alternating pulses.

8. (Original) The method of claim 1, wherein the illuminating the object with the first beam and the illuminating the object with the second beam are performed sequentially.

9. (Original) The method of claim 1, wherein the determining configuration data comprises comparing data associated with the first image with data regarding configuration of the object specified in a treatment prescription.

10. (Original) The method of claim 1, wherein the determining radiation absorption data comprises calculating a radiation absorption rate in the object.

11. (Original) The method of claim 1, further comprising storing the configuration data and the radiation absorption data in a computer readable medium.

12. (Original) The method of claim 1, wherein the configuration data comprises one or a combination of location, size, and shape of the object.

13. (Original) The method of claim 1, wherein the radiation treatment plan is configured for use in a computed cone therapy.

14. (Original) A radiation system, comprising:
    means for generating a first beam at a first energy level for illuminating an object;
    means for determining a first image of the object formed by the first beam;
    means for determining configuration data using the first image;

means for generating a second beam at a second energy level for illuminating the object;

means for determining a second image of the object formed by the second beam;

means for determining radiation absorption data using the second image; and

means for determining a radiation treatment plan using the configuration data and the radiation absorption data.

15.   (Original) The system of claim 14, wherein the means for determining configuration data comprises means for comparing data associated with the first image with data regarding configuration of the object specified in a treatment prescription.

16.   (Original) The system of claim 14, wherein the means for determining radiation absorption data comprises means for calculating a radiation absorption rate in the object.

17.   (Original) The system of claim 14, further comprising means for storing the configuration data and the radiation absorption data.

18.   (Currently Amended) A radiation ~~process~~ method, comprising:

illuminating an object with a beam at a MeV energy level;

determining an image of the object formed by the beam;

determining configuration data and radiation absorption data using the image; and

determining a radiation treatment plan based on the configuration data and the radiation absorption data.

19.   (Original) The method of claim 18, wherein the beam has a constant intensity during a session.

20.   (Original) The method of claim 18, further comprising adjusting an intensity of the beam during a session.

21.   (Original) The method of claim 18, wherein the determining configuration data comprises comparing data associated with the image with data regarding configuration of the object specified in a treatment prescription.

22.   (Original) The method of claim 18, wherein the determining radiation absorption data comprises calculating a radiation absorption rate in the object.

23.   (Original) The method of claim 18, further comprising storing the configuration data and the radiation absorption data in a computer readable medium.

24.   (Original) The method of claim 18, wherein the configuration data comprises one or a combination of location, size, and shape of the object.

25.   (Original) The method of claim 18, wherein the radiation treatment plan is configured for use in a computed cone therapy.

26.   (Original) A radiation system, comprising:
          means for generating a beam at a MeV energy level for illuminating an object;
          means for determining an image of the object formed by the beam;
          means for determining configuration data and radiation absorption data using the image; and
          means for determining a radiation treatment plan using the configuration data and the
radiation absorption data.

27.   (Original) The system of claim 26, further comprising means for adjusting an intensity of the beam during a session.

28.   (Original) The system of claim 26, wherein the means for determining configuration data comprises means for comparing data associated with the image with data regarding configuration of the object specified in a treatment prescription.

29.   (Original) The system of claim 26, wherein the means for determining radiation absorption data comprises means for calculating a radiation absorption rate in the object.

30.   (Original) The system of claim 26, further comprising means for storing the configuration data and the radiation absorption data.

31.   (Currently Amended) A radiation process, comprising:
        illuminating an object with a treatment beam in accordance with a treatment plan;
        determining an image of the object formed by the treatment beam;
        determining radiation absorption data using the image; ~~and~~
        evaluating an execution of the treatment plan based on the radiation absorption data; and
        determining the treatment plan;
        wherein at least a portion of the determining the treatment plan and at least a portion of the illuminating the object with the treatment beam are performed during a same patient session.

32.   (Original) The process of claim 31, further comprising adjusting the treatment beam.

33.   (Original) The process of claim 32, wherein the adjusting comprises one or a combination of changing a direction, a shape, and an intensity of the treatment beam.

34.   (Original) The process of claim 31, further comprising determining configuration data for the object.

35.   (Original) The process of claim 34, wherein the determining the configuration data comprises
        illuminating the object with an image beam;
        determining an image formed by the image beam; and
        determining the configuration data using the image formed by the image beam.

36.   (Currently Amended) The ~~method~~ process of claim 34, wherein the evaluating is performed based on the configuration data.

37.   (Currently Amended) The ~~method~~ process of claim 34, further comprising adjusting the treatment beam based on the configuration data.

38.   (Currently Amended) The ~~method~~ process of claim 34, further comprising gating an operation of the treatment beam based on the configuration data.

39.   (Original) The process of claim 31, further comprising verifying the treatment plan before illuminating the object with the treatment beam.

40.   (Canceled)

41.   (Canceled)

42.   (Currently Amended) A radiation system, comprising:

    means for generating a treatment beam for illuminating an object in accordance with a treatment plan;

        means for determining an image of the object formed by the treatment beam;

        means for determining radiation absorption data using the image; ~~and~~

        means for evaluating an execution of the treatment plan based on the radiation absorption data; and

        means for determining the treatment plan;

        wherein the means for determining the treatment plan determines at least a portion of the treatment plan, and the means for illuminating the object illuminates the object in accordance with the treatment plan during a same patient session.

43.   (Original) The system of claim 42, further comprising means for determining configuration data for the object.

44.   (Original) The system of claim 43, further comprising means for gating an operation of the treatment beam based on the configuration data.

45.   (Currently Amended) An apparatus for irradiating an object, comprising:

a platform for supporting an object;

a first beam source configured to generate a first radiation beam at a first intensity level and a second radiation beam at a second intensity level toward the platform;

a beam adjuster in front of the first beam source for adjusting a radiation beam directed from the first beam source;

a projection detector configured to generate a first image of the object illuminated by the first radiation beam at the first intensity level; and

a control module coupled to the projection detector and to the beam adjuster.

46.   (Original) The apparatus of claim 45, further comprising a second beam source configured to generate an image beam toward the platform, wherein the projection detector is further configured to generate a second image of the object illuminated by the image beam.

47.   (Original) The apparatus of claim 45, wherein the control module is configured to develop a radiation treatment plan based on the first image.

48.   (Original) The apparatus of claim 46, wherein the control module is configured to develop a radiation treatment plan based on one or both of the first image and the second image.

49.   (Original) The apparatus of claim 45, wherein the control module is configured to adjust one or a combination of a shape, an intensity, and a direction of the second radiation beam.

50-53. (Canceled)

54.   (New) The apparatus of claim 45, wherein the first image is usable in determining a treatment plan.

55.   (New) The method of claim 1, wherein the determining the treatment plan comprises creating the treatment plan.

56.   (New) The method of claim 1, wherein the determining the treatment plan comprises modifying the treatment plan.

57.   (New) The method of claim 14, wherein the means for determining the treatment plan comprises means for creating the treatment plan.

58.   (New) The method of claim 14, wherein the means for determining the treatment plan comprises means for modifying the treatment plan.